Innovative Procurement and Partnerships in Facilities Management

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Abstract

Aim: The aim of the paper is to present, analyse and identify learning from two case studies of innovative procurement in Facilities Management (FM) concerning the establishments of partnerships between clients and providers.

Approach and methodology: A major study of FM best practice covering 36 cases from the Nordic countries in Europe shows, that the most outstanding examples of innovation in FM are initiated from the demand side and involves new forms of procurement with long term contracts. This paper considers in-depth two differing examples of such innovative procurement approaches from Denmark. The first example is from a private pharmaceutical corporation, which has used so-called function based procurement in relation to office buildings. The second example is from a public organization, which has entered into so-called operational partnership with private providers concerning all municipal buildings and sports facilities in parts of the city of Copenhagen. Each of the case studies has involved both the client and the provider side of the collaboration. The paper presents, compare and analyze the two cases regarding intentions, procurement methods, forms of collaborations, performance measurements, and the results and experiences.

Conclusions: The two cases show that an essential element in a successful procurement and partnership is that the client allows the providers freedom to plan their activities. Thereby the providers can optimize the use of their productive capacity and utilize their competences with incentives to profit from such improvements. A major challenge is to balance the risks between the client and provider and to create a common understanding about the quality level between representatives from both parties. For the providers this kind of collaboration set strong requirements on the management style and company culture.

Limitations of the research: The research is only based on two case studies, which obviously limits the possibility to generalize the results.

Practical applications: The research presents two specific examples of innovative procurement in FM which can give inspiration and learning to other public and private clients. The research

also outlines requirements and recommendations for providers to be able to become successful collaboration partners in these kinds of partnerships.

Keywords: Facilities Management, Partnership, Procurement, Best Practice, Case studies

1. Introduction

This paper is based on a research project on Facilities Management (FM) Best Practice in the Nordic countries of Europe, which was carried out at the Technical University in Denmark (DTU) from 2005 to 2008. The project investigated a broad range of cases of the best practice in FM among leading practitioners and with examples of recent innovations. All together 36 cases from Denmark, Norway, Sweden, Finland and Iceland were studied, but most of the cases were from Denmark, including the 2 cases presented in this paper. The cases covered 5 themes: FM concepts, collaboration between demand and supply, space utilisation, technology and infrastructure, and environment. The two cases in this paper both concerned collaboration between demand and supply. The project was divided in 3 phases. The case presented in section 4.1 was part of 21 cases from the first phase in 2005-2006 and the case presented in section 4.2 was part of 15 cases from the second phase in 2007. The third phase in 2008 included the production of a book based on the research, which was published in both Danish and English (Jensen et al., 2008).

The purpose of the research project was general knowledge building about FM as part of developing FM as a new field in research and teaching at DTU. This included production of teaching material for students, support of knowledge sharing among practitioners, development of contacts and network, and a basis to develop a research strategy and programme for further research and development. That this was successful can be seen from the book being used as teaching material both at DTU and other educational institutions and that the externally funded Centre for Facilities Management – Realdania Research (CFM) was established in 2008. The author of this paper was project manager of the research project and is now head of the research centre.

This paper focus on 2 examples of innovative procurement which shows that establishment of partnerships can be a very efficient way to support innovation. The literature on innovation mostly focus on innovation among providers, but these cases show that the demand side can be an important initiator of innovation in the supply chain by creating procurement models with stronger incentives for the involved parties to be innovative.

2. Literature review

Innovation is an important area of business development, which has not been researched much in the context of FM. Mudrak et al. (2005) notice that innovation in the FM industry is often recognized, but the innovativeness of FM organisations is seldom studied. They present a case study of four FM organisations covering two in-house organisations and two main-contractor organisations. Based on the study they conclude that FM organisations innovate only mildly. “The innovation in FM industry is incremental due to the day-to-day nature of decision-making in FM projects and fast changing demands and needs of the client organisations” (Mudrak et al.,

2005, p. 103). They also found that the two main-contractors were more innovative than the two in-house organisations, but with such a small sample this result cannot be generalised.

The conclusion that innovation in FM organisations is mostly incremental is supported by the research project FM Best Practice in the Nordic countries. Formalised development units were only found in a few large public FM organisations. However, large providers also have specialist units, who particular are involved in innovative activities in the tendering process of integrated FM contracts and sometimes in developing annual optimisation catalogues to clients, for instance based on gain sharing incentives. It was concluded that major innovations concern new forms of procurement initiated by the demand side, and that innovation in FM mostly concerns the organisation of work and not so much technical innovations (Jensen et al., 2008).

The development in FM is very influenced by the general development in the construction industry. The focus on innovation in the construction industry has traditionally mostly been related to component producers and contractors. However, during the last 15 years there has been an increased focus on the role of the clients in relation to innovation. Among the examples of this are the development of partnering and Public-Private Partnership (PPP). These examples are characterized with clients introducing new forms of procurement and collaboration, which have effects on the supply chain and attempt to introduce incentives for the providers to become more innovative (in the UK for instance Latham, 1994 and DETR, 1998, in Denmark for instance Bygherreforeningen, 2002).

PPP is interesting in relation to FM, because it integrates the responsibility for delivering a building project and the responsibility for operating the facilities for a long period. However, an ongoing study of PPP questions the innovativeness of PPP consortiums, because of the providers being risk adverse and the strong position of the financial partner. Due to the risk factors related to a long contract period, they are unwilling to add further risk from introducing innovative solutions (Kristiansen, 2009).

Implementation of ICT probably represents most technical innovations in FM, which also can have effects on the supply chain. A recent study has thus shown that there is a strong client-supplier interdependency in relation to ICT implementation. Outsourcing can involve that clients requires use of specific ICT systems, but it can also be an incentive for clients to implement their own ICT systems to keep ownership and control over information about their own facilities and to reduce potential high switching costs, when changing FM provider (Scupola and Jensen, 2009).

A literature study from an ongoing study on inter-firm collaboration in FM concludes: “Knowledge sharing seems to be core to the success of collaborative endeavours when it comes to innovation and competitiveness.” (Storgaard et al., 2010, p. 20). They also conclude that difficulties may arise for innovation the more one focus on management information and performance target control. The potential of long-term collaboration is hindered, if there is too strong focus on “exploitation” and too little focus on “exploration” with cooperation based on trust, reciprocity, obligation and communication, where smaller errors are allowed.

3. Methodology

The research project on FM Best Practice in the Nordic countries utilised a common case study framework, which is described in details in Jensen et al. (2008). The main research method was interviews. For the cases on collaboration between demand and supply it was seen important to collect information from representatives from both the demand side and the supply side.

The case from Novo Nordisk Servicepartner (NNS) in section 4.1 is based on information received a from former department manager in NNS, at a meeting January 2006, and from a project coordinator from K&L from a telephone interview February 2006 and subsequent correspondence based on a draft case study report. Some popular articles by the former department manager in NNS (including Hansen, 2007 - published in English) and an example of one of NNS's function based agreements with K&L have been reviewed.

The case from Copenhagen Municipality (CM) presented in section 4.2 is based on participation in start-up workshop for the operational partnership Brønshøj-Husum in March 2007, information received from the founder of the provider company BMT-BYG at a meeting on March 15th, 2007, and succeeding correspondence with him and the project manager from CM. Various material from the prequalification and tendering process of the partnership and some publications about the experiences in CM have been reviewed.

In the development of this paper supplementary literature reviews have been made, including information and inspiration from some of CFM's ongoing research projects, and the two cases have been compared and analysed more in depth.

4. Case study presentation

4.1 Function based procurement in Novo Nordisk Servicepartner

Novo Nordisk Servicepartner (NNS) was a company within the Novo Group owned 100 % by Novo Nordisk and provided facilities services to this pharmaceutical corporation. NNS has recently – and after this case study - stopped as an independent company and has been integrated in the mother company. In order to improve the technical operation and to imply savings NNS has worked innovatively with procurement of the operational tasks. They have realised that it is crucial to organise these tasks in a way so they may have a volume which gives the provider possibilities to make optimal planning in relation to his production resources. One of the methods for this has been implementation of function based procurement of the entire technical operation of some buildings.

Function based procurement

Function based procurement is a process which aims at making a function based agreement between a client and a provider. Most agreements specify what the provider must deliver, and at service provisions also which resources the provider must put at disposal as input for the service. Instead a function based agreement is characterised by being aimed at the output, which the provider must deliver. In the function based agreement the provider is hence responsible for the maintenance of the technical system in question.

The Danish Maintenance Association in 2001 published a publication about function based agreements for maintenance (The Danish Maintenance Association, 2001). NNS was engaged in the development of this guideline and they were the first to use function based procurement for operation and maintenance of buildings. The differences between a function based agreement and a traditional activity based agreement is shown in table 1.

Table 1: Comparison of activity based function based agreements

Activity based agreement	*Function based agreement*
The client buys activities, for instance • *4 inspections a year* • *Inspection round once a week* • *Repairs at € X per hour*	*The client buys a function* • *Heating: +21 degrees Celciusin offices* • *Light bulps in lamps* • *Tight roof*
Fixed price to preventive maintenance and unit prices to repairs	*Fixed price to preventive maintenance and repairs*
The client determine size of preventive activities	*The provider determine size of preventive activities*
The provider will have stability	*The client will have stability*
The client takes on risk	*The provider is applied risk*
Continuous optimising will "harm" the provider	*Continuous optimising will be to the benefit of the provider*
The client will have continuous optimising	*The client will have optimising at procurement*
The focus is on economy and quality	*The focus is only on quality*
The competence is with the provider and the client	*The competence is with the provider*
The client has detailed documentation demands	*The customer has superior documentation demands*
All repairs must be invoiced by the provider and tested and paid by the client	*No repairs will be invoiced by the provider and tested and paid by the client*

Differences in the perception of quality level among client and provider is a risk factor for both parties. For the client the main risks of the function based agreement are that the provider may fail and that the systems after the contract period are delivered in worse condition than assumed.

On the other hand, the provider will have more free hands to organise the work and exploit his competences to optimise the use of the resources. The economical matters are in principle settled at the signing of the agreement, so that the further cooperation will be focused on quality, and administrative reliefs are achieved to both parties. To the client the function based agreement gives economical safety.

It is impossible in advance to decide whether the total costs will be higher or lower at a function based agreement compared to an activity based agreement. It depends very much on the provider´s risk estimation, and hence the risk premium which the provider adds in his offer, and of course the competitive situation. However, with the function based agreement there are better possibilities for the providers to optimise their services and develop their competences, which in time would make providers with experiences from function based agreement more competitive, hence provide economical advantages both to themselves and their customers.

NSS's experiences as client

NNS has established several function based agreements of building maintenance. The first was agreed in 2003 and included approx. 10.000 m^2 buildings, and in 2005 another function based agreement was completed, of other buildings, and to a similar extent. The agreements includes the function of all building installations, and the mechanical function of external building parts (facades, roof, doors, gates and windows), and internal building parts (surfaces, doors, ceiling coating and floors). However, maintenance of the building envelope was not included in the first procurement. At both procurements the competition was won by the company Kemp & Lauritzen (K&L). Later agreements were not made at the time of this case study.

In the agreement there are requirements of an overall availability of 99 %. Furthermore, specific requirements for out of service time and response time are defined, both in shape of show up time from error message until repair is started, and time of error correction until the equipment is operational. Table 2 provides examples of such time demands within the agreement. The client must report observed errors to the provider within 4 hours after observing the error.

5 providers participated in the tender process in April 2005, and they had rather varied prices. NNS had estimated the total costs in 2004 at approx € 105.000. Two offers were € 13.000-26.000 below, whereas a third tender was approx € 13.000 higher. The remaining two tenders were approx. 3 times and 4 times higher. This means that NNS reached a guaranteed cost reduction of approx 25 % at this procurement. NNS has examined the results of the procurement with each contractor, and the large differences must be seen as a sign that the providers are hesitating to such a new way of procurement, to which they are not used. Hence their experience base is not suitable to calculate this type of bids. There is a lack of maturity within the marked, but the fact that some providers dare to enter with a competitive price may be seen as a sign that some providers can see the possibilities in this new form of agreement.

Table 2: Examples of requirements for show up time and time of error correction

	Show up time (hours)	*Error correction time*

		(calendar hours)
Ventilation systems	*4*	*48*
Heating systems, room heating (Winter: October 1st to May 1st)	*2*	*4*
Heating systems, room heating, system part (Summer: May 1st to October 1st)	*8*	*48*
Cold water systems, system parts	*4*	*48*
Hot water systems, system parts	*4*	*48*
Lighting, single light source	*8*	*24*

NNS has in the beginning of 2006 renewed the first agreement from 2003, and it now includes the building envelope, and NNS and K&L has also made a function based agreement which include further approx. 20.000 m^2 of buildings. Thus approx 40.000 m^2 of the total portfolio of approx 55.000 m^2 are included in function based agreements. The agreements are not time limited but can be denounced by both parties at the arranged notice.

K&L's experiences as provider

Function based agreement was new to K&L as they had to bid on NNS´ first procurement in 2003, but unlike the rivals´ they had experiences in establishing a team for bidding at larger traditional service agreements to property companies and a hotel chain. Such a team typical consists of a service manager for ventilation, a service engineer in plumbing and electricity respectively, and possibly also a security specialist. This team jointly make a survey as part of the preparation of a bid. Furthermore K&L have a special function in the sales unit, who are specialised in bidding for total service contracts.

At the beginning of an agreement K&L examines all technical systems in the buildings along with NNS, and each system is given a grade from 0 to 4, where 0 means that the system is functioning satisfactorily, and 4 means that the system is not functioning. In the last case a renovation case is agreed, which is paid for separately. Additionally the examination and the grades contributes to create a shared picture of the condition of the systems, and hence a basis to estimate whether the systems are in a similar state, when the agreement is dissolved.

Most of the everyday tasks in the NNS agreements are carried out by a site electrician, who besides electrical tasks undertakes replacement of lightning sources and other odd jobs. In case of more complicated tasks, for instance adjusting of ventilation systems, specialised technicians are called for. For the tasks as to the roofs, K&L has hired a roofing company as subcontractor, and they see to inspection of the roofing and possible repairs, and also cleaning of gutters and drainpipes etc. The expansion of the size of the agreements in the beginning of 2006 has meant that K&L now has a full time site electricians dedicated to NNS´s buildings, which is a major advantage to K&L, and it entailed a certain reduction of the contract sum.

The site electrician manages a series of odd jobs as a handyman such as removal of furniture and mounting of pictures, and he also contributes to rebuilding work and changes of office layout. Such tasks are not part of the fixed contract but they are extra tasks, which may be requested for by NNS, and which are settled from the use of man hours. NNS has a service desk, from which such tasks are requested for electronically at K&L, through an internet based system. These extra tasks have had a size, which have surprised K&L, and economically they are of the same size as the fixed contract. However, K&L only undertake these tasks in half of the buildings, as NNS´s own workshops undertake such tasks in the remaining buildings.

Development and evaluation

In the latest contract between NNS and K&L they have, as suggested by K&L, signed an agreement about risk sharing, so at present a maximum of € 4.000 to K&L´s cost is included for each case, for instance repair of a system. There was no maximum to K&L´s costs in the previous contracts, hence K&L had to add in a rather high risk premium in their bid, or make reservations to specific systems in bad condition. With the agreed maximum K&L has been able to reduce the contract price and avoid such circumstances, as NNS now pay expenses over € 4.000 for each case.

On the basis of the former experiences it is NNS´s evaluation that the function based procurement includes real incentive to the provider, who has possibilities of many small tasks being one total large task. This give possibilities to think in wholes and to use the employees much better with large savings of time of transportation and changeover in relation to each employee who has to work with many small single tasks for various clients. Hence it is estimated that 80 % of all tasks may be solved by a multi-worker. However, the providers´ internal division in trade workshops is an impediment to use these potentials. There is a need for education of a new type of multi-worker, who can work with various tasks. Another problem is that planned maintenance at present is subject to calendar tyranny, and a real optimising of the continuous inspection tasks is missing. If the continuous inspection can be changed from once a year to once each 5th quarter it will reduce the resource efforts used by the inspection with 25 %. Accordingly the providers ought to consider the economy in a contract over the entire period, rather than to focus on a profit within each quarter.

To K&L the experiences regarding function based procurement has also been positive, and they will try to make other larger property owners interested in such a form of agreement. Traditionally such companies have a large number of different providers to manage various sorts of operation and maintenance tasks, but using a function based procurement all tasks may be solved by approaching only one provider. This makes life easier to the client, who may even avoid hiring a caretaker.

4.2 Operational partnerships in the Municipality of Copenhagen

Operational partnership or service partnership are rather new within the public sector in Denmark. The Danish Enterprise and Building Authority started in 2003 to financially support municipalities and counties who want to develop and establish a public-private partnership about operation and maintenance of buildings. The purpose to the support is to co-finance some of the extra costs which are attached to initiate public-private collaboration. In 2003 the Danish Enterprise and Building Authority furthermore offered a task in developing an electronic partnership instruction to private and public companies, and it was in February 2004 published as a step-by-step instruction of partnership on their web based tendering portal.

Copenhagen Municipality (CM) in 2004 as one of the first public organizations in Denmark established public-private partnership with operation and maintenance of some municipal buildings at Østerbro. In the beginning of 2007 CM established 2 new partnerships including all municipal buildings in two quarters in Copenhagen, Brønshøj-Husum and Vanløse. The private part, both at Østerbro and in Brønshøj-Husum is a consortium with BMT-BYG as the main player. This case focuses on the partnership between CM and BMT-BYG on in particular on how the partnership was established, and how they function.

The operational partnership Østerbro

The operational partnership at Østerbro included 5 schools and 5 after-school centre of in total 39.343 m^2. The 5 schools represent 35.137 m^2. The partnership was established in June 2004 and it was part of a pilot project in collaboration between CM and the Danish Enterprise and Building Authority.

The purpose of the project was

- To develop a new way of collaboration among the municipality, schools/institutions and contractors, which are known by openness, flexibility and fewer conflicts

- That the prioritisation of both internal and external maintenance to a greater extent accommodates the need and wishes of the schools/institutions in short and long term.

- That the maintenance standard is improved

To the municipality the special thing about the partnership was the fact that it was not just a partnership between a private and a public part, but also between the central administration and the decentral units in the municipality – schools and institutions.

The procurement was carried out without prequalification. The procurement materials included a procurement letter, a partnership agreement and the following 4 enclosures: AB92 (common condition for construction and civil engineering work in Denmark) including changes and appendixes, cooperation agreement, operation planning and project description.

In the bids, the tenderers had to specify standard hourly prices divided in 16 types of work and to foreman, building/operation manager and reduction to apprentices. Furthermore, to each of the 16 types of work they had to specify a price index as to standard materials, which stated the tenderer´s material price in relation to the distributor´s price list. As part of the bid the tenderers had to describe the way they planned to solve the task as to staffing, servicing of users, cooperation with the municipality´s technicians and others, competency development and proposition of an incentive model. Finally the tenderers had to include suggestions to further development of the partnership idea, for instance process optimisation and communication.

Choice of provider was made on the basis of the best economic offer based on a total evaluation of the assignment criteria: Price (40%), solution of the task (40%) and development propositions (20%). After choosing provider the cooperation began with a workshop, in which the cooperation agreement was finished jointly and the contract was signed.

As stated objectives to the partnership the following was agreed:

- Streamlining: Better use of staff knowledge, resources and competences with the parties involved

- Competency development, for instance of technical staff, through a close contact among the parties

- 5-20% more maintenance to the price and less urgent calls

- Reduction of the expenses for energy

The partnership began August 2004, and at first it lasted for December 31st, 2005, but a possibility of prolonging the agreement for further 2 years until the end of 2007 was used by CM. The budget for the partnership was in total Euro 2.2 million for 2004-2007. As specific results of the partnership CM has estimated, that they have 19% more maintenance to the price, and the extent of urgent tasks has been reduced from approx. 10 tasks monthly in 2003, approx. 5 tasks monthly in 2004-2005 to approx. 3 tasks monthly in 2005-2006.

The cooperation within the partnership has been successful. A significant cause to this has been that the parties spend much time together at workshops and meetings in the beginning. This led to the fact that the parties became well acquainted with each other, and a relation based on confidence was built up. All involved parties had the will to make the cooperation work out, and there has been a true openness among the parties.

The tasks have included daily maintenance of buildings, technical facilities and paved outdoor surfaces and planned maintenance such as replacing windows and roofs and refurbishment of special class rooms and toilets. The planned maintenance is determined once a year. At the beginning of the year the provider prepare a price catalogue of the future tasks, partly from CM´s registrations in the IT-based maintenance system (Caretaker), and partly from the

provider´s own review of the buildings. On basis of this the common planning group makes a prioritisation and selection of the tasks which should be finished during the coming year. The exact implementation is coordinated to each institution so they will be of minimal inconvenience to the users.

One of the greatest advantages of the partnership is the possibility to plan larger coherent refurbishment tasks across institutions. For example windows renovation has been done in several institutions in continuation. Likewise the provider has more possibilities to plan the works in relation to his personnel resources, including a certain amount of seasonal level out. In the partnership they are allowed to carry forward money from one financial year to the other, which normally is not possible within the municipal system, and this helps to more flexibility in the planning.

The main part of the budget is based on central funds within the municipality for maintenance, but the partnership has also included the self administered funds, which each institution administer for internal maintenance and various occurring works. This has proved to be less suitable as they had to spend exorbitant time to have the tasks agreed, which were to be performed to the self administered funds. In the new partnership agreements the self administered funds are kept without the agreement itself, but they are included as an option, so that each institution may chose to have these tasks carried out by the provider within the partnership.

In 2006 a midway evaluation of the partnership was finished, which in general was very positive, both as to cooperation among CM and the private consortium, and among the central and decentral parties within CM. Based on the experiences from Østerbro, the newly established Copenhagen Property in CM with assistance from the consulting engineering company COWI prepared the procurement of the new partnership agreements which were established in the beginning of 2007.

The private partner BMT-BYG A/S

BMT-BYG A/S is a building company based in Copenhagen, and they primarily work with rebuilding, refurbishment, operation and maintenance of housing and business facilities in the Copenhagen region. The company was established in 1982 by a master carpenter and in 2004 it was reorganised into a joint-stock company with 3 owners, who also jointly manage the company.

BMT-BYG A/S had prior to the partnership with CM some long-term customer relations. This concerns housing and business facilities, where they for a period of years have managed maintenance tasks. Furthermore they had long-term relations to some architects and consulting engineering companies. Based on bad experiences as a young carpenters company the founder had chosen not to work as subcontractor to the large main contractor companies. BMT-BYG instead acts as main contractor and cooperates permanently with a series of other companies from other building trades, where the same companies again and again are involved based on

trust and without price competition with other subcontractors. These permanent cooperation relations have gradually developed over time, and it has led to the building up of a strong network.

Internally BMT-BYG is also characterised by long-term relations with the employees. Hence they work hard to avoid firing employees. Most employees are now salaried employees, and they started that already in 1985. Piecework is never used within the company. With its 30 employees BMT-BYG is a comprehensive company, and they do not want to grow. There are some special demands on management and staff to work as a provider in a partnership. It is mainly the employees´ activities in the field, where they have the direct contact to the customers, which will carry the partnership through. Hence the employees must be minded for this, and have some permanent colleague relations. Some employees are better fit to work with the customers than at building sites, and for the management it is important to be aware of this and use the employees where the fit in the best.

The operational partnership Brønshøj-Husum

In autumn 2006 CM arranged a tender competition of two partnerships which includes operation and maintenance of all the municipal buildings in Brønshøj-Husum and Vanløse, respectively. The partnership with BMT-BYG in Brønshøj-Husum includes in total 53 buildings divided in 6 administration buildings, 10 old people´s homes, 8 public schools, 26 day care centre and 3 stadium and sports facilities. The duration is 3 years with the possibility of prolongation for 1 year and the budget is approx. Euro 8.0 million for the 4 years.

The purpose of the operational partnership is:

- To obtain a better utilisation of the central funds, which are used for external maintenance of the buildings
- To catch up with the back-log of maintenance of the buildings
- To coordinate the daily operation and the planned maintenance tasks along with the users and partners
- To create a competence development among the parties and develop more knowledge as to the problems of the building

In connection to the partnership at Østerbro the major change in purpose is an increased focus on competence development and more knowledge. The criteria for success to the partnership are here as well:

- More maintenance for the money
- Less administration within all parts

After implementation of the procurement process, including choice of the consortium with BMT-BYG A/S together with the building services specialists Dalskov EL-VVS A/S, the partnership was initiated through a start-up workshop on March 6th, 2007, with the participation of representatives from the consortium, CP and the municipal institutions, and with consultants from COWI as facilitator. As part of the workshop the parties involved presented themselves to one another and a crosswise teamwork was started, in which the distribution of roles and the communication were discussed. Furthermore a letter of intent concerning the cooperation was worked out together, so they agreed on goals and rules of the game. The letter of intent includes the following main points:

- Shared project goals
- Cooperation and process
- Quality
- Conflict resolution
- Open books
- Incentive structure

In the letter of intent the shared project goals of cooperation and process represent the major part with 15 short ”statements”. In return the conflict resolution includes the most specific part in the shape of a conflict resolution ladder with fixed hours or days to solve problems and disagreements on each step.

The further procedure was also discussed at the workshop, during which the first meeting in a planning group was arranged. Further COWI presented an effect measurement tool, which would be used to measure the effect of the partnership. The tool was developed by COWI for the Danish Enterprise and Building Authority in cooperation with a work group with representatives from Copenhagen and Frederiksberg Municipalities and BMT-BYG. It is built up with basis in Balanced Scorecard, in which there is measured in relation to the following 4 perspectives: Economy, customer/user, work processes, and competence and learning. Measurements are made through questionnaire surveys each year during the contract period. It starts in year 0 and is supplemented by interviews.

The start-up workshop was finished after signing of the contract and the letter of intent by CP and the private consortium.

5. Comparison and discussion

A comparison of characteristics of the two cases is shown in table 3.

Table 3: Comparison of the two cases

	NNS	*CM*
Procurement type	*Function based*	*Operational partnership*
Client	*Private corporation*	*Public municipality*
Provider	*One company:* *Technical contractor*	*A consortium:* *Building contractor and technical contractor*
Type of buildings	*Offices*	*Schools, offices, sport facilities etc.*
Contract duration	*Not fixed*	*3 years +1 year as option*
Remuneration	*Fixed total price*	*Fixed rates*
Governance	*One point of contact*	*Steering committee, planning group and operational teams*
Work planning	*Provider alone*	*Provider together with client*
Relations to end users	*Informal*	*Formalised*

The cases are both characterised by implementation of new forms of procurements initiated by the demand side. The providers are given freedom to plan their activities, so they can optimize the use of their productive capacity and utilize their competences. The collaboration is also in both cases long-term. In the private NNS case the contract is with-out time limit and in the public CM case the contract period is 3-4 years based on EU procurement regulations. Both cases are based on competent client representatives and mutual trust between client and provider. Both clients have realised that an extensive contract volume is important to make the collaboration attractive to providers and thereby to achieve economically attractive bids.

The NNS case gives the strongest economical incentives for the provider to be innovative, and is mostly suitable for buildings of limited complexity. The CM case is to a higher degree based on close collaboration with utilisation of complementary competences between client and providers, and with involvement of the users.

The agreements between NNS and K&L were the first example of use of function based procurement for building operation and maintenance in Denmark and so far there are only few other examples. There seem to be a lack of maturity, both with clients and providers to enter into this new way of tendering, but the experiences from the agreements between NNS and K&L indicate that it implies significant advantages to both clients and providers.

Function based procurement and partnerships in FM are inspired from the development in the construction industry, but there are indications that these kinds of long-term collaborations are more suitable to FM than construction. A study comparing the construction department and the maintenance department in a large corporation in the UK found clear differences in the culture. The staff in the construction department is characterised as “hunters”, who are focussed on winning new contracts and finish building projects with strict deadlines and immediately continue to the next project. Contrarily, the staff in the maintenance department is characterised as “farmers”, who are focussed on understanding their customers and building up long-term relationships with them (Johnstone, 2007).

6. Conclusion

The two cases presented in this paper show that an essential part of a successful procurement and partnership is that the client allows the providers freedom to plan their activities. Thereby the providers can optimize the use of their productive capacity and utilize their competences with incentives to profit from such improvements. A major challenge is to balance the risks between the client and provider and to create a common understanding about the quality level between representatives from both parties. For the providers this kind of collaboration set strong requirements on the management style and company culture. The case studies support the conclusion from the literature review that the soft side of management based on exploration rather than exploitation is crucial to a successful partnership in FM.

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